

CLAIMS

1. A breathable, heat-sealable, composite film comprising a perforated polymeric substrate layer having a first and second surface and disposed on a surface of the substrate
5 layer an unperforated barrier layer wherein:
 - (i) the thickness of the unperforated barrier layer is no more than about 12 μm ; and
 - (ii) the perforated substrate layer has a degree of perforation of from about 0.1 to about 78%, wherein the perforations have an average diameter of between 0.05 and 1.5 mm.
- 10 2. A film according to claim 1 wherein the unperforated barrier layer is permeable to gaseous water and oxygen.
3. A film according to claim 1 or 2 wherein the unperforated barrier layer comprises a
15 polyester, polyolefin or copolyesterether layer.
4. A film according to claim 1, 2 or 3 wherein the perforations have an average diameter of between 0.1 and 1.5 mm.
- 20 5. A film according to claim 1, 2, 3 or 4 wherein the unperforated layer is disposed on the first surface of the substrate.
6. A film according to any preceding claim wherein the thickness of the unperforated layer is no more than 8 μm .
- 25 7. A film according to any preceding claim wherein the thickness of the unperforated layer is no more than 5 μm .
8. A film according to any preceding claim wherein the perforated substrate layer has
30 between 25 and 400 perforations per $(25\text{mm})^2$.
9. A film according to any preceding claim wherein the average perforation diameter is 0.3 to 1.0 mm.

10. A film according to any preceding claim wherein the degree of perforation is from about 10 to about 50%.
- 5 11. A film according to any preceding claim wherein the substrate layer is a copolyesterether.
12. A film according to any of claims 1 to 10 wherein the substrate comprises polyester.
- 10 13. A film according to claim 12 wherein the substrate comprises polyethylene terephthalate.
14. A film according to any preceding claim wherein the substrate layer is a heat-
- 15 sealable layer.
15. A film according to any of claims 1 to 13 wherein there is disposed on the second surface of the substrate layer a perforated heat-sealable layer.
- 20 16. A film according to claim 15 wherein the heat-sealable layer is a copolyester derived from ethylene glycol, terephthalic acid and isophthalic acid, preferably wherein the molar ratio of the terephthalic acid component to the isophthalic acid component is in the range from 65:35 to 85:15, and more preferably is about 82:18.
- 25 17. A film according to claim 15 wherein the heat-sealable layer is a copolyester derived from terephthalic acid, ethylene glycol and 1,4-cyclohexanedimethanol, preferably wherein the molar ratio of 1,4-cyclohexanedimethanol to ethylene glycol is in the range from 30:70 to 35:65, and more preferably is about 33:67
- 30 18. A film according to claim 15 wherein the heat-sealable layer is a copolyester derived from an aromatic dicarboxylic acid, an aliphatic dicarboxylic acid and a stoichiometric amount of one or more glycols, wherein the concentration of said aromatic dicarboxylic acid in the copolyester is in the range from 50 to 55 mole % based on all the

dicarboxylic acid components of the copolyester, and the concentration of said aliphatic dicarboxylic acid in the copolyester is in the range from 45 to 50 mole % based on all the dicarboxylic acid components of the copolyester.

- 5 19. A film according to claim 18 wherein said aromatic dicarboxylic acid is terephthalic acid, wherein said aliphatic dicarboxylic acids are selected from sebacic acid, adipic acid and azelaic acid, and wherein the glycol component is ethylene or butylene glycol.
- 10 20. A film according to any preceding claim wherein the film exhibits a haze of less than 6%.
21. A film according to any preceding claim wherein the film exhibits a total light transmission of at least 80%.
- 15 22. A process for producing a breathable, heat-sealable composite film comprising
- (a) providing a polymeric substrate layer having a first and second surface and optionally a discrete heat-sealable layer disposed on the second surface of the substrate;
- (b) perforating said substrate and if present said discrete heat-sealable layer; and
- 20 (c) providing an unperforated barrier layer on a surface of the substrate, wherein
- (i) the thickness of the unperforated layer is no more than about 12 μ m; and
- (ii) the perforated substrate layer has a degree of perforation of from about 0.1 to about 78%, wherein the perforations have an average diameter of between 0.05 and 1.5
- 25 mm.
23. A process according to claim 22 wherein the unperforated layer and/or the substrate layer are as set out in any of claims 1 to 21.
- 30 24. A process according to claim 22 wherein the unperforated layer is laminated to the perforated substrate.

25. A process according to claim 24 wherein an adhesive composition is applied by spray melt-coating onto one or both of the unperforated layer or the first surface of the substrate.

5 26. A process according to claim 25 wherein the adhesive composition comprises ethylene vinyl alcohol.

27. A process according to claim 21 wherein the unperforated layer is provided on the substrate by extrusion coating.

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28. A process according to any of claims 22 to 27 wherein the thickness of the unperforated layer is no more than 8 μm .

15 29. Use of a film according to any of claims 1 to 21 as a breathable film in the packaging of cut plants.

30. Use of a film according to claim 29 as a lidding film in said packaging, said packaging comprising the lidding film and a receptacle.

20 31. A sealed container comprising a receptacle containing cut plant(s), and a lid formed from a polymeric film according to any of claims 1 to 21.

32. Use of a film according to any of claims 1 to 21 as a self-venting film in the packaging of an ovenable meal.

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33. Use of a film according to claim 32 a self-venting lid in the packaging of an ovenable meal wherein said packaging further comprises a receptacle.